

ABSTRACT

In a stabilized power supply unit having a current limiting function, the unit is designed to have a steep over-current dropping characteristic. This minimizes the over-current region, prevents oscillation during a startup, and limits inrush current during a start up within a predetermined range. The output voltage of the power supply unit provides a constant output voltage by controlling an output transistor by means of a differential amplifier amplifying the difference between a reference voltage and an output feedback voltage. The power supply unit has a first high-gain, slow-response type current limiting circuit that outputs a first current limiting signal when the output current of the power supply unit exceeds a predetermined level, and a second low-gain, quick-response type current limiting circuit that outputs a second current limiting signal when the output exceeds the predetermined level.